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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,738	01/11/2002	Slade H. Gardner	TA-00496	1561

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EXAMINER

FIORILLA, CHRISTOPHER A

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 12/04/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/044,738

Applicant(s)

GARDNER, SLADE H.

Examiner

Christopher A. Fiorilla

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. Claims 1-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite in that the preamble of the claim recites "items" (plural), while the body of the claim recites "item" (singular). The claim should be amended so that the number is consistent throughout the claim.

In claim 2, the word "a" should be changed to -- an --.

Claim 14 is indefinite in that the preamble of the claim recites "items" (plural), while the body of the claim recites "item" (singular). The claim should be amended so that the number is consistent throughout the claim.

Claim 26 is indefinite in that the preamble of the claim recites "components" (plural), while the body of the claim recites "component" (singular). The claim should be amended so that the number is consistent throughout the claim.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1,3-5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagle et al. (6,124,028) in view of Nilsson et al. (6,357,144).

Nagle et al. teaches the basic claimed process of forming a silicon carbide item. The process disclosed by Nagle et al. includes the steps of: forming a preform from wood; drying the

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preform; pyrolyzing the preform; reshaping the preform by machining; and infusing the preform with silicon to form the silicon carbide item.

Nagle et al. does not specifically disclose that the drying takes place in an autoclave.

Nilsson et al. discloses that either drying ovens or autoclaves can be used to dry wood (col. 3, line 45). It would have been obvious to one having ordinary skill in the art at the time of the invention to use an autoclave in the process of Nagle et al. in view of the equivalence teaching of Nilsson et al.

Determination of the specific heating temperatures and heating rates would have been well within the realm of routine experimentation to one having ordinary skill in the art at the time of the invention. These parameters would have obviously been selected to optimize the process conditions (e.g. total process time) and/or the properties of the final product. It is well known in the art that heating temperatures affect total process time and heating rates affect the stability of a preform during heating.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagle et al. (6,124,028) in view of Nilsson et al. (6,357,144) as applied to claims 1,3-5 and 7-12 above, and further in view of Behrendt et al. (5,865,922).

Behrendt et al. discloses that carbon preform can be converted to silicon carbide by treatment with silicon or alloys thereof. It would have been obvious to one having ordinary skill in the art at the time of the invention to use an alloy in the process of Nagle et al. in view of the generic disclosure therein.

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5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagle et al. (6,124,028) in view of Nilsson et al. (6,357,144) as applied to claims 1,3-5 and 7-12 above, and further in view of *Environment Conscious Ceramics (Ecoceramics)* by Singh.

Singh discloses that SiC ceramics are produced from either solid wood or wood particle/binder performs. It would have been obvious to one having ordinary skill in the art at the time of the invention to use a wood particle/binder perform in the process of Nagle et al. in view of the equivalence teaching of Singh to allow for cost savings associated with recycling wood particles.

6. Claims 14 and 26 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

7. Claims 13,15-25 and 27-34 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art of record, Nagle et al. does not disclose a step of covering the wood perform with a vacuum bag as substantially set forth in the claims, nor does it disclose applying layers of composite material to the silicon carbide product to form a component, curing the component and removing the cured component.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher A. Fiorilla whose telephone number is 703-308-0674. The examiner can normally be reached on M-F, 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Christopher A. Fiorilla
Primary Examiner
Art Unit 1731

caf

November 27, 2002